

REMARKS

Favorable reconsideration and allowance of the subject application are respectfully requested in view of the following remarks.

Summary of the Office Action

The title stands objected to.

Claims 2, 4, 6, 8, 10, 12 and 16 stand objected to because of informalities.

Claims 1, 2, 5, 6, 8 and 12-16 stand rejected under 35 U.S.C. §102(b) as being anticipated by *Fernando et al.* ("Fade and Dissolve Detection in Uncompressed and Compressed Video Sequences," Image Processing, 1999, IEEE, pp.299-303, October 28, 1999).

Claims 7 and 11 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Fernando et al.* in view of *Legall et al.* (U.S. Patent No. 5,872,598).

Claims 3, 4, 9 and 10 stand objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form.

Summary of the Response to the Office Action

Claim for Priority along with a certified copy of Japanese Patent Application 2000-102188, and a Submission of Replacement Drawings along with six replacement sheets of drawings are submitted herewith. Applicant amends the title and claims 2, 5, 6, 8, 12, 13, 15 and 16 by this Amendment.

Applicant respectfully submits that the amendments to claims 2, 5, 6, 13, 15 and 16 are made merely to improve the form of these recited claims and do not narrow the intended scope of these claims or relate to the issue of patentability. Thus, Applicant does not intend to relinquish any subject matter as a result of these amendments to claims 2, 5, 6, 13, 15 and 16.

In addition, claims 17-24 have been newly added. Accordingly, claims 1-24 are currently pending.

Objection to the Title

The title stands objected to for allegedly being not descriptive. Applicant has amended the title to address the Examiner's concerns. Accordingly, Applicant respectfully requests the objection to the title be withdrawn.

Claim Objection

Claims 2, 4, 6, 8, 10, 12 and 16 stand objected to because of informalities. In particular, the Office Action asserts that the phrase "altogether," as recited in claims 2, 8 and 16, is unclear. Applicant has amended claims 2, 8 and 16 to remove the phrase "altogether" to address the Examiner's concerns. Accordingly, the withdrawal of the objection to claims 2, 4, 6, 8, 10, 12 and 16 is respectfully requested.

The Disposition of the Claims

Applicant appreciates the Examiner's indication that claims 3, 4, 9 and 10 would be allowable if rewritten in independent form as noted at paragraph 8 of the Office Action. In addition, claims 1, 2, 5-8, and 11-16 also are believed to be allowable for at least the following reasons.

Claim Rejections Under 35 U.S.C. §102(b) and 103(a)

Claims 1, 2, 5, 6, 8 and 12-16 stand rejected under 35 U.S.C. §102(b) as being anticipated by *Fernando et al.* Claims 7 and 11 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Fernando et al.* in view of *Legall et al.* These rejections are respectfully traversed for at least the following reasons.

Applicant respectfully submits that *Fernando et al.* does not anticipate claims 1, 2, 5-8 and 11-16 and does not render these recited claims unpatentable, because *Fernando et al.* does not teach or suggest every feature of these recited claims. For instance, it is respectfully submitted that *Fernando et al.* fails to teach or suggest the claimed combinations, as set forth in independent claims 1, 7, 13 and 15, including at least detecting whether or not the fade change occurs “based on a change of the detected intra-field dispersion value and a change of the detected intra-field average direct current level.”

In the rejections, the Office Action asserts that the detection of fading based on mean and variance of the video sequences as taught by *Fernando et al.* corresponds to the detecting apparatus as set forth in Applicant’s claimed combinations. Specifically, the Office Action alleges at paragraph 5, lines 8-12 that

“[t]he image change detecting apparatus comprising a dispersion value detecting device for detecting one of intra-field dispersion value in each field image is provided by Fernando in sections 3-4 on pages 300-302, by using a variance for each frame and fields corresponding to Applicant’s dispersion, where Applicant’s disclosure indicates that the dispersion is a measure of variation.”

However, as discussed, for example, at page 12, lines 17-25 of the instant application’s specification, “[t]he intra-field dispersion value used here denotes a difference between luminance in each pixel contained in each of two field images configuring one frame image and an average value of the luminance in one field image. In other words, this value denotes a value indicating how much scatter (dispersion) in luminance occurs in each pixel in one field image. When the intra-field dispersion value in a field image is high, there is full of variety in the field image relevant to luminance. When the intra-field dispersion value in a field image is low, it is

apparent that the field image is a monotonous one with poor variation.” That is, the “intra-field dispersion value in field image” (σ) of an embodiment of the present invention denotes a sum of absolute values of differences between an average value of luminance level in a field image and a value of luminance level in each pixel contained in the field image, which is indicated by the following equation:

$$\sigma = \sum_{x=1}^H \sum_{y=1}^V |Y(x, y) - \text{Ave}(Y(x, y))|$$

where $Y(x, y)$ is a value of luminance level in coordinates (x, y) in a field image at a particular time, and $\text{Ave}(Y(x, y))$ is an average value of luminance level in the field image at the particular time.

Applicant respectfully submits that the above-discussed equation for “intra-field dispersion value in field image” (σ) of an embodiment of the present invention is different from the “variance of luminance signal” taught by *Fernando et al.* In addition, the “intra-field dispersion value in field image” (σ) of an embodiment of the present invention and the “variance of luminance signal” taught by *Fernando et al.* have characteristics that differ from each other.

Further, even assuming one skilled in the art would consider dispersion as variance, as asserted by the Office Action, *Fernando et al.* still does not teach or suggest detecting whether or not the fade change occurs “based on a change of the detected intra-field dispersion value and a change of the detected intra-field average direct current level,” as set forth in independent claims 1, 7, 13 and 15. In particular, *Fernando et al.* discloses detecting fade-in, fade-out, or dissolving based on variance and means of a number of frames, not of field images. See, for example, page 301, column 1, lines 1-10, and Figures 1 and 2 of *Fernando et al.* Thus, Applicant respectfully

submits that *Fernando et al.* does not discuss detecting a fade change based on intra-field dispersion values and intra-field average direct current levels, as set forth in Applicant's independent claims 1, 7, 13 and 15.

Accordingly, Applicant respectfully submits that since *Fernando et al.* does not teach or suggest every feature of independent claim 1, 7, 13 and 15, *Fernando et al.* does not anticipate claims 1, 7, 13 and 15 or render claims 1, 7, 13 and 15 unpatentable. Further, since claims 2, 5, 6, 8, 12, 14 and 16 respectively depend from claims 1, 7, 13 or 15, it is respectfully submitted that *Fernando et al.* also does not anticipate claims 2, 5, 6, 8, 12, 14 and 16 or render these claims unpatentable. Accordingly, withdrawal of the rejection of claims 1, 2, 5, 6, 8 and 12-16 under 35 U.S.C. §102(b) is respectfully requested.

Moreover, Applicant respectfully submits that *Legall et al.* is not relied upon by the Office Action to teach or suggest detecting whether or not the fade change occurs based on a change of the detected intra-field dispersion value and a change of the detected intra-field average direct current level. Further, Applicant respectfully submits that *Legall et al.* fails to cure the above-discussed deficiencies of *Fernando et al.* Accordingly, Applicant respectfully submits that *Fernando et al.* and *Legall et al.*, whether taken separately or in combination, fail to teach or suggest every feature of independent claim 7 and fail to render independent claim 7 unpatentable. Since claim 11 depends from claim 7, it is respectfully submitted that *Fernando et al.* in view of *Legall et al.* also fail to render claim 11 unpatentable. Accordingly, withdrawal of the rejection of claims 7 and 11 under 35 U.S.C. §103(a) is respectfully requested.

New Claims 17-24

Applicant has added new claims 17-24 to further define the invention. Applicant respectfully submits that claims 17-24 are allowable at least because of their respective dependence from claims 1, 7, 13 or 15, and because of the features recited therein.

Conclusion

In view of the foregoing, withdrawal of the rejections and allowance of the pending claims are earnestly solicited. Should there remain any questions or comments regarding this response or the application in general, the Examiner is urged to contact the undersigned at the number listed below.

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

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